

Weekly Report – week of March 21, 2011  
Fabrication and Assembly of ERL hardware  
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**Cryogenics:** The installation of the cryogenic transfer lines along with wiring of level and temperature sensors to support the ERL and VTF cryo refrigerator continues.

**Laser:** Work continues with the C-AD controls group on pulse measurement issues. We are still working with the Utilities group to improve environment stability. A supplemental AC unit has been added to control temperature problems in the laser room. The Lumera Laser engineer has been scheduled for the week of March 28<sup>th</sup>. to repair and perform laser realignment.

**FPC conditioning:** The Navy FPC's have been tested this week at low power (80KW). The water leak in the FPC window cooling loop has been repaired by CPI and high power testing has been scheduled.

**Photocathode:** The copper substrate sample that had been coated with antimony in the deposition system shows good uniformity. The crystal monitor shows about a 50 to 1 error in thickness. This will require adjustments to the tooling factor of the crystal monitor. A sample which will be half SS and half Moly has been installed into the deposition system for further studies.

**Gun Cryomodule:** The gun cavity string mock-up continues. Kurt Macha is visiting BNL from Jefferson Lab to look at the string mock-up prior to shipping it back to J-Lab for cleaning. A portable clean room is being assessed for its ability to meet the cleanliness needs in the final assembly of the 703MHz Gun string assembly. The transport cart modification drawings are in final check.

**PASS System:** Certification is complete for the ERL PASS system allowing operations of the 1MW Klystron and the FPCs in the ERL Block enclosure. The PASS system for the LBH is operational and now has a contactor to interlock the RF power supply. The VTF PASS system continues now that man-power is available.

**Mezzanine:** The area around the mezzanine has been prepped for required modifications. The materials have shown up and we scheduled the work to be performed the week of March 28<sup>th</sup>.

**Large Grain Gun:** A schedule and task list has been compiled and reviewed for the assembly, fabrication and testing of the large grain gun. Significant progress has been made in actuator assembly design for variable coupler.

**5-cell cavity/cryomodule:** The paperwork continues for the G-5 test safety review.

**ERL injection line:** Vacuum envelope is in preparation to final review, correction magnets are under design.

**ERL Extraction line:** Magnets are being fabricated, beam dump pressure vessel code compliance under evaluation, vacuum/instrumentation layout needs to be reviewed and finalized.

**ERL Tech Support Area:** The EEBA area continues to move forward. Design drawings and cost estimates have been completed. The bid packages have gone out for the construction of the enclosure and refurbishment of this area.